

**ABSTRACT**

A system and method for determining back muscle dysfunction comprises data collection and data analysis elements. The system collects electrical muscle activity measurements by applying a plurality of electrodes in a pattern across a patient's or test subject's back, measuring the electrical activity at each of the electrodes and storing the measurements. One or more normative or examined patient databases comprising measurements and results from a number of individuals are used for comparison against the patient's measurements. A patient's back muscle activity is characterized by collecting electrical muscle activity measurements for the patient and comparing an analysis of the patient's electrical muscle activity to the results of the normative or previously examined group.